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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,451	10/31/2000	Kersti Strandqvist	P15484US00	8608

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YOUNG & THOMPSON  
745 SOUTH 23RD STREET 2ND FLOOR  
ARLINGTON, VA 22202

EXAMINER

ANDERSON, CATHARINE L

ART UNIT PAPER NUMBER

3761

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/699,451

Applicant(s)

STRANDQVIST, KERSTI

Examiner

C. Lynne Anderson

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 November 2004 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17, 19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Assarsson et al. (3,901,236) in view of Smith (5,328,939).

With respect to claims 13 and 14, Assarsson discloses all aspects of the claimed invention but remains silent as to the method of crosslinking the superabsorbent material. Assarsson discloses an absorbent structure in an absorbent article, the absorbent article being a diaper, incontinence guard, and a sanitary napkin, as described in column 1, lines 7-9, and column 7, lines 64-66. The structure comprises a

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porous material comprising fibers and a superabsorbent material, as disclosed in column 1, lines 9-11. The structure contains at least 50% superabsorbent material, as disclosed in column 5, lines 22-24. The superabsorbent material is in the form of particles, as shown in figure 7, and may be crosslinked by covalent or ionic bonds, as disclosed in column 3, lines 37-40. Suitable polymers for the superabsorbent material are disclosed in column 3, line 41 to column 4, line 12, and includes poly(vinylpyridine).

Smith discloses a method of forming a superabsorbent material for use as an absorbent, as disclosed in column 2, lines 54. The superabsorbent material is produced by initially ionically crosslinking a polymer, such as poly(vinylpyridine), as disclosed in column 3, lines 6-10). The polymer is crosslinked with an ionic crosslinking agent comprising a polyvalent metal ion, as disclosed in column 4, lines 19. The superabsorbent material is then covalently crosslinked, as disclosed in column 4, lines 59-63. The method disclosed by Smith results in a superabsorbent material that provide improved strength and are highly stable, as described in column 2, lines 49-51.

It would therefore be obvious to one of ordinary skill in the art at the time of invention to produce the superabsorbent material of Assarsson by the method taught by Smith to provide the absorbent structure with improved strength and stability.

With respect to claim 15, the superabsorbent is poly(vinylpyridine), which is a polymer with an anionic functional group.

With respect to claim 16, the superabsorbent material disclosed by Assarsson in column 3, line 46, is polyacrylic acid, which has functional carboxy groups and the same structure as polyacrylate.

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With respect to claim 17, the covalent crosslinking agents disclosed by Smith in column 4, line 63 to column 5, line 36, have cations which will bond to anionic functional groups.

With respect to claim 19, the polyvalent metal ion is aluminum or zinc, as disclosed by Smith in column 4, line 19.

With respect to claim 21, the superabsorbent material comprises crosslinking along its surface, and is therefore surface crosslinked.

With respect to claim 22, the superabsorbent material is homogenously mixed with the ionic crosslinking agent, and therefore is substantially homogeneously crosslined, as disclosed by Smith in column 7, lines 36-43.

With respect to claim 23, the structure contains 75% by weight of superabsorbent material, as disclosed by Assarsson in column 5, lines 22-23.

With respect to claim 24, diapers, sanitary napkins, and incontinence devices are well-known to comprise a liquid pervious topsheet, a liquid pervious backsheet, and an absorbent structure located therebetween.

Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Assarsson et al. (3,901,236) in view of Smith (5,328,939) as applied to claim 15 above, and further in view of Hutchins et al. (5,957,203).

Assarsson, as modified by Smith, discloses all aspects of the claimed invention with the exception of the cationic crosslinking agent being aluminate ion.

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Hutchins discloses in column 3, lines 39-45, the use of aluminate ion, which comprises the polyvalent metal ion aluminum, as a cationic crosslinking agent. The crosslinking agent disclosed by Hutchins provides the crosslinked polymer with improved gel qualities, as described in column 1, line 33 to column 2, line 15.

It would therefore be obvious to one of ordinary skill in the art at the time of invention to use aluminate ion as the cationic crosslinking agent, as taught by Hutchins, in the method of forming an absorbent structure disclosed by Smith.

### ***Response to Arguments***

Applicant's arguments filed 21 November 2003 with respect to the rejection(s) of claim(s) 1-20 in view of Harada et al. (5,382,610) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over Assarsson et al. (3,901,236) in view of Smith (5,328,939).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Lynne Anderson whose telephone number is (703) 306-5716. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (703) 308-1957. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3590.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

CWA

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January 15, 2004



**GLENN K. DAWSON**  
**PRIMARY EXAMINER**